

In re Patent Application of:  
**SMITH ET AL**  
Serial No. 10/760,996  
Filed: **JANUARY 20, 2004**

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REMARKS

Claims 1-29 are pending in the application, claims 1-12 having been canceled and new claims 13-29 having been added by the present amendment. Reconsideration of this application in light of the foregoing amendments and following remarks is respectfully requested.

In replacing the original claims 1-12 with new claims 13-29, Applicants have endeavored to focus upon the solution to the problem of the occurrence of a ground fault on one of a plurality of span powered telecommunication wireline segments, each of which receives its power from a common span power bus, on the one hand, and is connected to a respective remote terminal, so that the remote terminal may receive span power therefrom on the other hand.

Pursuant to the present invention, a respective ground fault detection and isolation circuit, implementation details of which are described in the present specification with reference to Figures 4-7 of the drawings, is installed within each of a plurality of digital subscriber line-central office terminals (DSL-Cs), as described, for example, in paragraph [05] on page 3 of the present specification. As is further described in paragraph [06] bridging pages 3 and 4 of the specification, if a ground fault should occur, and thereby pose a hazardous condition to service personnel, and interrupt normal power source operation, to result in remote terminal malfunction, the ground fault detection and isolation circuitry is operative to identify and initiate the disconnection and isolation of the particular telecommunication wireline segment, for the faulted twisted pair within which the ground fault has occurred, from the span power source. Such functionality of the ground fault detection and isolation circuit installed within each wireline

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segment serves to prevent the ground fault from propagating to other wireline segments and bringing down the entire span power distribution network.

Of replacement claims 13-29, claims 13 and 19 are independent method claims, while claim 25 is an independent system claim.

Each of these claims recites a multi-telecommunication wireline segment configured power distribution architecture, that employs a plurality of ground fault detection and isolation circuits, respective ones of which are installed in each of the multiple wireline segments or twisted pair telephone lines, such as represented by the reduced complexity diagram of Figure 3 of the drawings of the present application.

Pursuant to the present invention, each ground fault detection and isolation circuit is operative to detect a ground fault in the telecommunication wireline segment in which that ground fault detection and isolation circuit has been installed and, in response to detecting the occurrence of a ground fault, is operative to decouple and isolate its associated telecommunication wireline segment from the span power bus. By taking this action, it prevents a reduction in the span power being delivered to other telecommunication wireline segments in which no ground fault has occurred, so that power can be appropriately delivered to the remote terminals served by those other telecommunication wireline segments.

In dependent claims 14, 20 and 26, the ground fault detection and isolation circuit is further characterized as maintaining its associated telecommunication wireline segment coupled with the span power bus, in the absence of detecting a

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ground fault, so that power from the span power bus can be delivered to the remote telecommunication terminal served by that wireline segment, which enables normal load current to be supplied to the "remote" terminal, as intended. It is only upon the detection of the occurrence of a ground fault that decoupling/disconnection and isolation of the telecommunication wireline segment in which the ground fault has occurred takes place.

Dependent claims 15-18, 21-24 and 27-29 define the specific circuitry and operation of that circuitry detailed in the present specification and shown in Figures 4-7, referenced above, for implementing a ground fault detection operation.

Looking now at the prior art cited in the outstanding Office Action, the patent to Takeshita et al 4,385,336 details a circuit implementation for detecting a ground fault, per se, which implementation is quite similar to the circuit implementation employed in accordance with the present invention. However, Takeshita et al do not address the problem associated with a multi-telecommunication wireline segment-configured, span power-delivery network, and the selective disconnection and isolation of a ground faulted wireline segment, while allowing the remaining span-powered wireline segments to continue to deliver span power to the remote terminals, as characterized in claims 13-29.

The patent application publication to Phillips et al 2004/0240665 discloses a scheme for ramping up a power supply, that includes determining whether an overload condition exists. Phillips et al do not disclose or suggest the installation of respective ground fault detection and isolation circuits in a multi-wireline segment-configured, span power delivering system, connected between a common span power bus and a plurality of remote terminals, or ground fault

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detecting functionality, coupled with detection and isolation operations performed by those circuits, as characterized in claims 13-29.

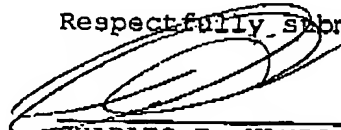
Due to the lack of disclosure or suggestion of the combination of features currently recited in replacement claims 13-29, as discussed above, both the rejection of claims 1-8 under 35 U.S.C. § 102, and the rejection of claims 9-12 under 35 U.S.C. § 103, relying on the patents to Takeshita et al and Phillips et al, as set forth on pages 2-6 of the outstanding Office Action, are respectfully traversed for the reasons discussed above.

In the absence of a citation of prior art which teaches or suggests the manner in which Applicants have more concisely defined the problem to which the present invention is directed, and the solution provided as characterized in replacement claims 13-29, favorable reconsideration of this application and a notice of allowability of such claims are respectfully requested.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 01-0484 and please credit any excess fees to such deposit account.

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 571-273-8300 to MAIL STOP AMENDMENT, COMMISSIONER FOR PATENTS, this 21 day of November 2005.

J. Kallameres